

Appl. No. 10/517,244  
Reply to Office Action of January 18, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1- 26 (canceled).

Claim 27 (currently amended): A hydrogen occluding material in a form of a fine powder capable of hydrogenation and/or dehydrogenation of hydrogen molecules or hydrogen atoms at about 200°C or below and under adequate control of pressure, said hydrogen occluding material comprising:

an aluminum hydride having a formula (1)



where  $0 \leq x \leq 3$ ; and

a dopant functioning as a catalyst, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to groups III to V of the periodic table and including at least one of chromium, iron, nickel, and alkali metals, and compounds thereof, and wherein an amount of the dopant ranges from about 0.2 mol% to about 10 mol% of an amount of the aluminum hydride.

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Claim 28 (currently amended): A method for using a hydrogen occluding material in a form of a fine powder, the method comprising hydrogenating and/or dehydrogenating hydrogen molecules or atoms at about 200°C or below and under adequate control of pressure a hydrogen occluding material composed of:

an aluminum hydride having a formula (1)



where  $0 \leq x \leq 3$ ; and

a dopant functioning as a catalyst, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to groups III to V of the periodic table ~~and including at least one of~~ chromium, iron, nickel, and alkali metals, and compounds thereof, and wherein an amount of the dopant ranges from about 0.2 mol% to about 10 mol% of an amount of the aluminum hydride.

Claim 29 (new): The hydrogen occluding material according to claim 27, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to the groups III to V of the periodic table, and at least one species selected from the group consisting of chromium, iron, nickel, and alkali metals, and compounds thereof.

Claim 30 (new): The hydrogen occluding material according to claim 27, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to the groups III to V of the periodic table, and at least one species selected from the group consisting of alkali metals, and compounds thereof.

Claim 31 (new): The method for using a hydrogen occluding material according to claim 28, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to the groups III to V of the periodic table, and at least one species selected from the group consisting of chromium, iron, nickel, and alkali metals, and compounds thereof.

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Claim 32 (new): The method for using a hydrogen occluding material according to claim 28, wherein the dopant includes at least one species selected from the group consisting of transition metals belonging to the groups III to V of the periodic table, and at least one species selected from the group consisting of alkali metals, and compounds thereof.